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CLAIMS:

1.          A method of determining if a received data sequence is a Barker spreaded sequence, the method comprising the steps of correlating said received data sequence, performing a filtering operation to create a data set consisting of the sum of the correlation result of K subsequent data bits, where K is a quality parameter and comprises an integer

5      greater than 1, deriving a parameter L by determining the difference between a maximal correlation result and a minimal correlation result normalized by the minimal correlation result, and comparing the parameter L with a predetermined threshold value to determine if said received signal is a Barker spreaded sequence.

10    2.          A method according to claim 1, wherein the step of correlating the received sequence comprises deriving a signal $y(kT + n)$ using the formula:

$$y(kT+n) = \sum_{i=0}^{T-1} b_i^* r(kT+n-i)$$

where $b_i^*$ is the equivalent complex conjugated Barker sequence, $r(kT = n)$ is a sampled received data sequence, $k = 0,1\ldots\ldots$, and T is the sampling rate at which the

15    received sequence is sampled prior to application thereof to the correlator.

3.          A method according to claim 1 or claim 2, wherein the magnitude of $y(kT + n)$ is obtained prior to the step of performing the filtering operation.

20    4.          A method according to any one of the preceding claims, wherein the filtering operation comprises the calculation of a running average of the correlation results, using the formula:

$$\hat{s}_K(n) = \frac{1}{K} \sum_{i=1}^{K} s(iT+n), \text{ for } n = 0,\ldots, T-1$$

25    5.          A method according to any one of the preceding claims, wherein L is calculated using the formula:

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$$L = \frac{\max_{n_{s}K} \hat{}(n) - \min_{n_{s}K} \hat{}(n)}{\min_{n_{s}K} \hat{}(n)}$$

and a decision signal indicating the presence of a Barker sequence is output if L>T, and a decision indicating no Barker sequence is output otherwise, where T is a predetermined threshold value.

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6.        Apparatus for determining if a received data sequence is a Barker spreaded sequence, the apparatus comprises a correlator (12) arranged to correlate said received data sequence, a filter (16) arranged to perform a filtering operation to create a data set consisting of the sum of the correlation result of K subsequent data bits, where K is a quality parameter

10     and comprises an integer greater than 1, a calculator (20) arranged to derive a parameter L by determining the difference between a maximal correlation result and a minimal correlation result normalized by the minimal correlation result, and a comparator (22) arranged to compare the parameter L with a predetermined threshold value to determine if said received signal is a Barker spreaded sequence.

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7.        A decoder comprising an apparatus according to claim 6.


8.        A receiver comprising a decoder according to claim 7.


20  9.        Apparatus arranged to determine if a received data sequence is a Barker spreaded sequence by using the method of claim 1.


10.       Decoder comprising an apparatus according to claim 9.


25  11.      Receiver comprising a decoder according to claim 10.


12.       A wireless local area network comprising at least one transmitter and at least one receiver according to claim 8 or 11.